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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,978	10/24/2001	Michael W. Morrow	42390P12943	1432

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EXAMINER

TRAN, DENISE

ART UNIT PAPER NUMBER

2189

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,978

Applicant(s)

MORROW, MICHAEL W.

Examiner

Denise Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The applicant's amendment filed 3/3/05 has been considered. Claims 14-28 are presented for examination; claims 1-13 and 29-33 have been cancelled.

2. Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.

- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject

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matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (f) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (g) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (h) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (i) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation.

There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (j) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (k) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

3. Applicant's specification is objected because it fails to provide for a description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Specifically, almost every sentence in the specification includes the term "maybe" or "may". Because the limitations in the specification are described this way they may operate as described or may not operate as described. Appropriate correction is required. The objection is maintained

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The

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abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because the abstract is not within the range of 50 to 150 words . Correction is required. See MPEP § 608.01(b). The objection is maintained.

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 14-28 are rejected under 35 U.S.C. 112, first paragraph, because the best mode contemplated by the inventor has not been disclosed. Evidence of concealment of the best mode is based upon the ambiguous language used in the Applicant's specification to describe their invention. Specifically, almost every sentence in the specification includes the term "maybe" or "may". Because the limitations in the specification are described this way they may operate as described or may not operate as described. Furthermore, in claim 24, Applicants add the limitation of a MMU to claim 23. However on page 2 of Applicant's specification, Applicants admit that adding an

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MMU may increase the overhead and adversely affect the performance of the system.

Therefore Applicant has concealed their best mode. The rejection is maintained.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 23-24 and 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Gaskins et al., U.S. Patent No. 6,681,311, hereinafter Gaskins.

As per claim 23, Gaskins teaches the use of a system, comprising:

A processor (e.g. col. 4, lines 60-67, inherent that the processor unit within the microprocessor generates the virtual address element 132 to provide for the actual execution of the received data);

A discrete memory controller adapted to perform a table walk operation and coupled to the processor (e.g. figure 7, element 106);

A volatile memory device coupled to the discrete memory controller (e.g. figure 7, element 116 or col. 2, lines 12-20).

As per claim 24, Gaskins teaches the use of a MMU (i.e., TLB, figure 7, element 702), wherein the discrete memory controller is coupled to the processor via the MMU (e.g. figure 7, bus 154).

As per claim 26, Gaskins teaches the use of the discrete memory controller is adapted to provide address translation by using results of the table walk (e.g. col. 6, lines 2-10).

As per claim 27, Gaskins teaches the use of the discrete memory controller performs a table walk by combining a portion of a virtual address and a portion of a base address to generate an address of a descriptor (e.g. col. 5, lines 5-15 and col. 6, lines 2-10).

As per claim 28, Gaskins teaches the use of the volatile memory device is a DRAM (e.g. col. 2, lines 10-20).

10. Claims 14, 17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Arimilli et al., U.S. Patent No. 6,658,538, hereinafter Arimilli.

As per claim 14, Arimilli teaches the use of an apparatus, comprising:

A memory controller (e.g. figure 2, element 24);

A table walk device connected to the memory controller (e.g. figure 2, element 78) and externally located from a memory management unit (MMU) (e.g. figure 2, element 48 or 50).

As per claim 17, Arimilli teaches the use of a TLB coupled to the table walk device (e.g. figure 2, element 49 or 51).

As per claim 20, Arimilli teaches the use of a processor coupled to the table walk device (e.g. figure 2, elements 52, 62-74 and 52) and a memory device coupled to the memory controller (e.g. figure 1, element 28).

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarthy et al., U.S. Patent No. 5,666,509, hereinafter McCarthy in view of Roth et al., U.S. Patent No. 5,937,437, hereinafter Roth.

As per claim 14, McCarthy teaches the use of an apparatus, comprising:

A memory controller (e.g. figure 3, element 44);

A table walk device connected to the memory controller (e.g. figure 3, element 42).

McCarthy does not specifically show the use of a table walk device is externally located from a MMU. Roth shows the use of 2 MMUs (e.g. figure 1, elements 134 and

124). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine McCarthy and Roth because it would provide for parallel operation of the data and instruction caches. By having a DMMU and a IMMU in McCarthy two MMUs would be present where each table walk controller would be separate from the other MMU.

As per claim 15, McCarthy teaches the use of the table walk device combines a portion of the virtual address and a portion of a base address (e.g. figure 7).

As per claim 16, McCarthy teaches the use of the table walk device comprises a table base register to store a table base address (e.g. figure 7, element 70).

As per claim 17, McCarthy teaches the use of a TLB coupled to the table walk device (e.g. figure 3, element 40).

As per claim 18, McCarthy teaches the table walk device generates a descriptor and the TLB is adapted to receive the descriptor from the table walk device (e.g. col. 7, lines 63-67).

As per claim 20, McCarthy teaches a processor coupled to the table walk device (e.g. figure 1, element 14) and a memory device coupled to the memory controller (e.g. figure 2, element 30 or figure 1, element 22).

13. Claims 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCarthy et al., U.S. Patent No. 5,666,509, hereinafter McCarthy in view of Roth

et al., U.S. Patent No. 5,937,437, hereinafter Roth and Zolnowsky, U.S. Patent No. 4,766,537.

As per claims 19, 21 and 22, McCarthy does not specifically show the use of the table walk device is adapted to receive memory access protection data, determine whether a process executing in the processor is permitted to access data stored in a memory device, or an abort signal to the processor if the process is not permitted to access data stored in the memory device. Zolnowsky shows the use of the table walk device is adapted to receive memory access protection data, determine whether a process executing in the processor is permitted to access data stored in a memory device, or an abort signal to the processor if the process is not permitted to access data stored in the memory device (e.g. col. 5, lines 9-12 and col. 11, line 50 to col. 12, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zolnowsky with McCarthy because it would provide for protection against unauthorized access (e.g. col. 11, lines 50-55).

14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gaskins et al., U.S. Patent No. 6,681,311, hereinafter Gaskins in view of McCarthy et al., U.S. Patent No. 5,666,509, hereinafter McCarthy.

As per claim 25, Gaskins does not specifically show the use of the MMU is adapted to provide memory access protection by preventing a process executing in the processor from accessing predetermined data in the volatile memory device. McCarthy shows the use of the ATC is adapted to provide memory access protection by

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preventing a process executing in the processor from accessing predetermined data in the volatile memory device (e.g. figure 6 and col. 6, lines 17-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine McCarthy with Gaskins because it would provide for because it would provide for protection against unauthorized access at the earliest stage of address processing.

15. Claims 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arimilli et al., U.S. Patent No. 6,658,538, hereinafter Arimilli in view of McCarthy et al., U.S. Patent No. 5,666,509, hereinafter McCarthy.

As per claim 15, Arimilli teaches the use of the table walk device for performing table walks during address translations using known methods (e.g. col. 11, lines 62-67), but does not specifically show the use of combines a portion of the virtual address and a portion of a base address. McCarthy shows the use of combines a portion of the virtual address and a portion of a base address (e.g. figure 7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Arimilli and McCarthy because it would provide for proper conversion of the address to locate the missing data from the cache.

As per claim 16, Arimilli teaches the use of the table walk device for performing table walks during address translations using known methods (e.g. col. 11, lines 62-67), but does not specifically show the use of the table walk device comprises a table base register to store a table base address. McCarthy shows the use of the table walk device comprises a table base register to store a table base address (e.g. figure 7, element

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70).. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Arimilli and McCarthy because it would provide for proper conversion of the address to locate the missing data from the cache.

As per claim 18, Arimilli teaches the use of the table walk device for performing table walks during address translations using known methods (e.g. col. 11, lines 62-67), but does not specifically show the use of the table walk device generates a descriptor and the TLB is adapted to receive the descriptor from the table walk device. McCarthy shows the use of the table walk device generates a descriptor and the TLB is adapted to receive the descriptor from the table walk device (e.g. col. 7, lines 63-67). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Arimilli and McCarthy because it would provide for storing the address translation performed by the table walk controller in the TLB to allow the entry to be used in future requests.

16. Claims 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arimilli et al., U.S. Patent No. 6,658,538, hereinafter Arimilli in view of Zolnowsky, U.S. Patent No. 4,766,537.

As per claims 19, 21 and 22, Arimilli does not specifically show the use of the table walk device is adapted to receive memory access protection data, determine whether a process executing in the processor is permitted to access data stored in a memory device, or an abort signal to the processor if the process is not permitted to

access data stored in the memory device. Zolnowsky shows the use of the table walk device is adapted to receive memory access protection data, determine whether a process executing in the processor is permitted to access data stored in a memory device, or an abort signal to the processor if the process is not permitted to access data stored in the memory device (e.g. col. 5, lines 9-12 and col. 11, line 50 to col. 12, line 20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zolnowsky with Arimilli because it would provide for protection against unauthorized access (e.g. col. 11, lines 50-55).

17. Applicants argument filed 3/3/2005 have been considered but are not persuasive.

18. In the remarks, Applicants argued in substance that (1) McCarthy element 44 is not a memory controller (at least one that is analogous to that claimed by Applicant).

In response to (1), the examiner respectfully disagrees because Applicant's claim only state that use of a memory controller and no functionality or further limitations defining in the claim what the memory controller function is are claimed. Because of this the examiner is giving the broadest reasonably interpretation to the claimed limitation. Therefore, McCarthy's memory controller element 44 does perform memory controller functions (e.g. col. 5, lines 10-25).

19. In the remarks, Applicants argued in substance that (2) Gaskins fails to teach or suggest at least the discrete memory controller as claimed in Applicant's claims 23-28.

In response to (2), the examiner respectfully disagrees because Applicant has failed to show any other functionality performed by the discrete memory controller other than the table walk functions described in claims 23, 26 and 27. Table walk functions are memory controlling functions and because the table walk device is discrete from the other devices in figure 1 of Gaskins, the table walk logic (e.g. figure 1, element 106) is sufficient to read on Applicant's claimed limitations of a discrete memory controller.

20. In the remarks, Applicants argued in substance that (3) Applicant disputes the allegation that Gaskins TLB is analogous to a MMU.

In response to (3) the examiner respectfully disagrees because part of a MMU function is to incorporate a TLB (note Arimilli, McCarthy and Roth as examples). Because a TLB is a part of a MMU, and Applicant has failed to define their MMU with any other functions not performed by a TLB, Gaskin's TLB (e.g. figure 7, element 702) is sufficient to read on Applicant's claimed limitations of a MMU.

21. In the remarks, Applicant argued in substance that (4) Applicant further disputes the alleged motivation for combining references as purely speculative and non-objective.

In response to (4) applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the

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references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would provide for protection against unauthorized access (e.g. col. 11, lines 50-55) and that it would provide for protection against unauthorized access at the earliest stage of address processing.

22. In the remarks, Applicant argued in substance that (5) since the office action has failed to provide any evidence that Applicant has not included at least one preferred embodiment, and Applicant is unaware of any requirement that optional or alternative language such as "may be" or "may" cannot be used in the detailed description.

In response to (5) the examiner respectfully disagrees. The evidence which the examiner has provided is that almost every sentence in the specification includes the term "maybe" or "may". Because the limitations in the specification are described this way they may operate as described or may not operate as described. Appropriate correction is required. Under 37 CFR 1.71 it is required that the specification is full, clear and concise and that "the specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth." MPEP

608.01. Because of the alternative language used in the specification it is not possible to identify Applicant's best mode and that if everything is alternative how can Applicant's best mode exist.

23. In the remarks, Applicant argued in substance that (6) the abstract is proper.

In response to (6) the examiner respectfully disagrees because the abstract should be between 50-150 words so that the abstract describes the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. Because the abstract is not 50-150 words it does not describe the disclosure sufficiently.

24. In the remarks, Applicant argued in substance that (7) the claims comply with 112(1) best mode requirements.

In response to (7) the examiner respectfully disagrees as set forth in the above rejection to the claims. Furthermore the evidence the examiner relies upon is that almost every sentence in the specification includes the term "maybe" or "may".

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise Tran whose telephone number is (571) 272-4189. The examiner can normally be reached on Monday, Thursday, and Friday from 8:45 a.m. to 5:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim, can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DT.

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